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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/812,461	03/29/2004	Hiroo Azuma	CFA00070US	3151
7590 06/16/2006			EXAMINER	
Canon U.S.A. Inc. Intellectual Property Department 15975 Alton Parkway Irvine, CA 92618-3731			JACKSON JR, JEROME	
			ART UNIT	PAPER NUMBER
			2815	

DATE MAILED: 06/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-9 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The previous rejection still applies. As stated previously there is no consensus in the art regarding an interferometer that can make an "interaction free measurement". The scientific world is skeptical that interaction free measurements are possible. See the cited article by Vaidman, "Are Interaction-Free Measurements Interaction Free?"; Neilsen et al, Quantum... Information "The no-cloning theorem" p532;

Alter et al, Quantum Measurement of a Single System, 1.4 CONCLUSION: "This book establishes the quantum theoretical limits to the information that is obtained in the measurement of a single system. Information about the unknown quantum wavefunction of the system is limited to estimates of the expectation values of the measured observables, where the estimate errors satisfy the uncertainty principle. This impossibility of determining the quantum wavefunction of a single system and the quantum Zeno effect of a single system are equivalent, and impose a limit to precision measurement techniques. In the detection of an external force via the monitoring of a single harmonic oscillator, this limit requires an exchange of one quantum of energy between the force and the oscillator." 2.5 CONCLUSION: "We showed that the

information obtained in a series of quantum measurements of an observable of a single system about the probability density of this observable is limited to an estimate of the expectation value of the measured observable, with the minimal estimate error being the initial quantum uncertainty associated with this observable. Information about this quantum uncertainty of the measured observable is not available at all. This is due to the correlation between the results of successive measurements of a single system, which originates in the reduction. We conclude that the unknown quantum wavefunction of a single system cannot be determined, or even estimated approximately, from a series of measurements of a single system."

The nature of applicant's device and the scientific skepticism surrounding "interaction free measurements" require applicant to submit evidence of enablement. Applicant does not have to submit a working model but rather credible evidence that the device can be built and perform as claimed. This should be no problem as applicant insists that the device works. Furthermore, in addition to the scientific skepticism regarding "interaction free measurements", applicant's claims and disclosure are directed to "quantum computers" which likewise have not been built but only theorized. See the cited art Knill et al Nature 1/4/01; Monroe et al, Physical Review Letters; Barenco et al; Bouwmeester et al, etc. all of which prophetically expect quantum computers to built in the future although none have yet been realized.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The previous rejection still applies and see the comments above.

Applicant's arguments filed 4/5/6 have been fully considered but they are not persuasive. Applicant argues that he does not have to send in a working model. Applicant does not have to send one in, however, he needs to send in some evidence showing that the claimed device is enabled because the scientific world has not yet built a quantum computer nor proven interaction free measurement.

In regard to the level of ordinary skill, obviously one of ordinary skill would be proficient in understanding "quantum computation" as taught in the cited references, for example.

Regarding IV, note that Bouwmeester states that quantum computers have not been built. Teleportation is apparently necessary for quantum computing, however, demonstrating teleportation is not alone sufficient to show enablement for quantum computers.

Regarding VI, note that Vaidman has not proven that interaction free measurements actually occur but that he claims they do. Remember that he also published a cited paper addressing criticism or skepticism of his claims. The references cited above also raise skepticism and applicant needs to show by evidence that the claimed device works.

Applicant has not met his burden but rather insists that the device works absent any concrete proof.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jerome Jackson Jr. whose telephone number is 571-272-1730. The examiner can normally be reached on M-Th.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ken Parker can be reached on 571-272-2298. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

jj



JEROME JACKSON
PRIMARY EXAMINER